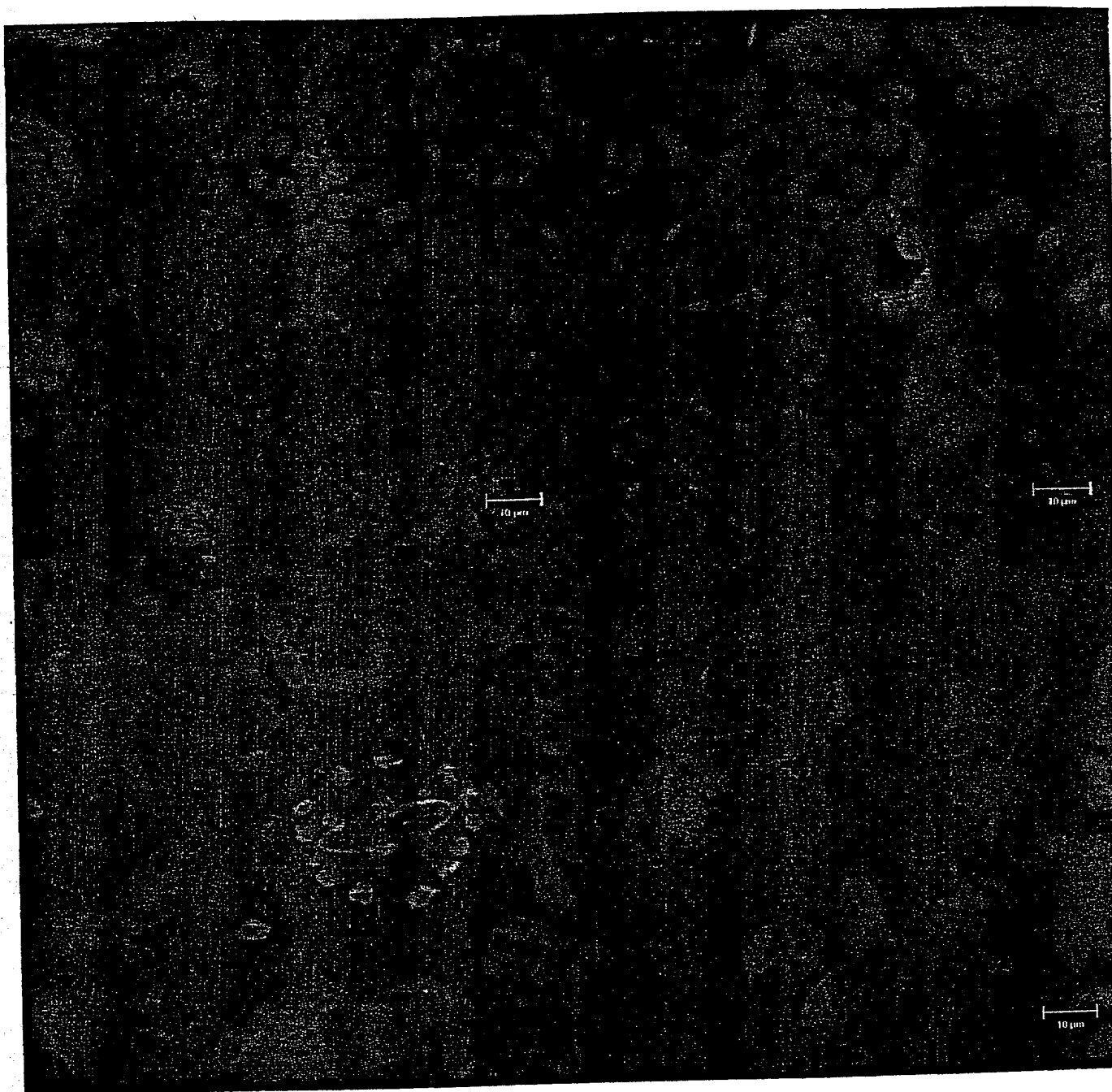


Figure 1

MASLRLFSTN	HQSLLLPSSL	SQKTLISSPR	FVNNPSRRSP	IRSVLQFNrk	PELAGETPRI	60
.....	.....	.....	.....	MVFSTGNGNG	DDNSKGLERV	20
.....	.....	.....	.....	.....	.....MNRI	4
.....	.....	.....	.....	.....	.....MARI	4
VVITSGKGGV	GKTTTTANVG	LSLARYGFSV	VAIDADLGLR	NLDLLLGLEN	RVNYTCVEVI	120
IVITSGKGGV	GKTTTTANLG	MSIARLGYRV	ALIDADIGLR	NLDLLLGLEN	RVLYTAMDIV	80
IVVTSGKGGV	GKTTTTANLG	AALARLGKKV	VLIDAEFLR	NLDLLGLEQ	RIVYTAIDVL	64
IVVTSGKGGV	GKTSSAAIA	TGLAQKGKKT	VVIDFDIGLR	NLDLIMGERR	RVVYDFVNVI	64
*****	****					
NGDCRIDQAL	VRDKRWSNFE	LLCISKPRSK	LPMGFGGKAL	EWLVDALKRT	PEFSPDFIII	180
EGQCRIDQAL	IRDKRWKNLA	LLAISKNRQK	YNVTT..KNM	QNLIDSVK..	.ELGFQFVLI	135
EDECTIDQAL	VKDKRLPNLV	LLPAAQNRSK	DAINAEQMSQ	..LVEQLK..	..DKFDYIII	118
QGDATLNQAL	IKDKRTENLY	ILPASQTRDK	DADLTREGVA	.KVLDDLK..	.AMDFEFIVC	120
DCPAGIDAFG	ITAITPANEA	VLVTTPDITA	LRDADRVTGL	LECDGIRDIK		232
DCPAGIDVGF	INAIASAQEA	VIVTTPEITA	IRDADRVAGL	LEANGIYNVK		187
DCPAGIEAGF	RNAVAPAQEA	IIVTTPEMSA	VRDADRVIGL	LEAEDIGKIS		168
DSPAGIETGF	ALMALYFADE	AIITTPEVSS	VRSDRILGI	LASKSRAEN	GEEPIKEH	178
MIVNRVRTDM	IKGEDMMSVL	DVQEMLGLSL	LGVIPEDSEV	IRSTNRGFPL	VLNKPPTLAG	292
LLVNRVRPDM	IQKNDMMSVR	DVQEMLGIPL	LGAIPEDTSV	IISTNKGEPL	VLNKKLTLSG	247
LIVNRLRPDM	VQLNQMISVE	DIIDLLAVPL	IGILPDDQKI	IISTNKGEPL	VMEEKLSVPG	228
LLLTRYNPGR	VSRGDMLSME	DVLEILTIKL	GVVIPEDQSV	LRASNQGEPV	ILDINA.DAG	237
LAFEQAAWRL	.VEQDSMKAV	MVEEEPKKRG	.FF.SFFGG		Arabidopsis	328
IAFENAARRL	IGKQDYFIDL	TSPQKGMFQK	.LQE.FFLGEE		Chlorella	286
LAFQNIARRL	EG.QDIPFLD	FMAAHNTLLN	RIRRRLLGG		Synechocystis	266
KAYADTVERL	LGEERPER..	FIEEE.KK.G	.FLKRLFGG		E. coli	271

Figure 2



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Figure 3

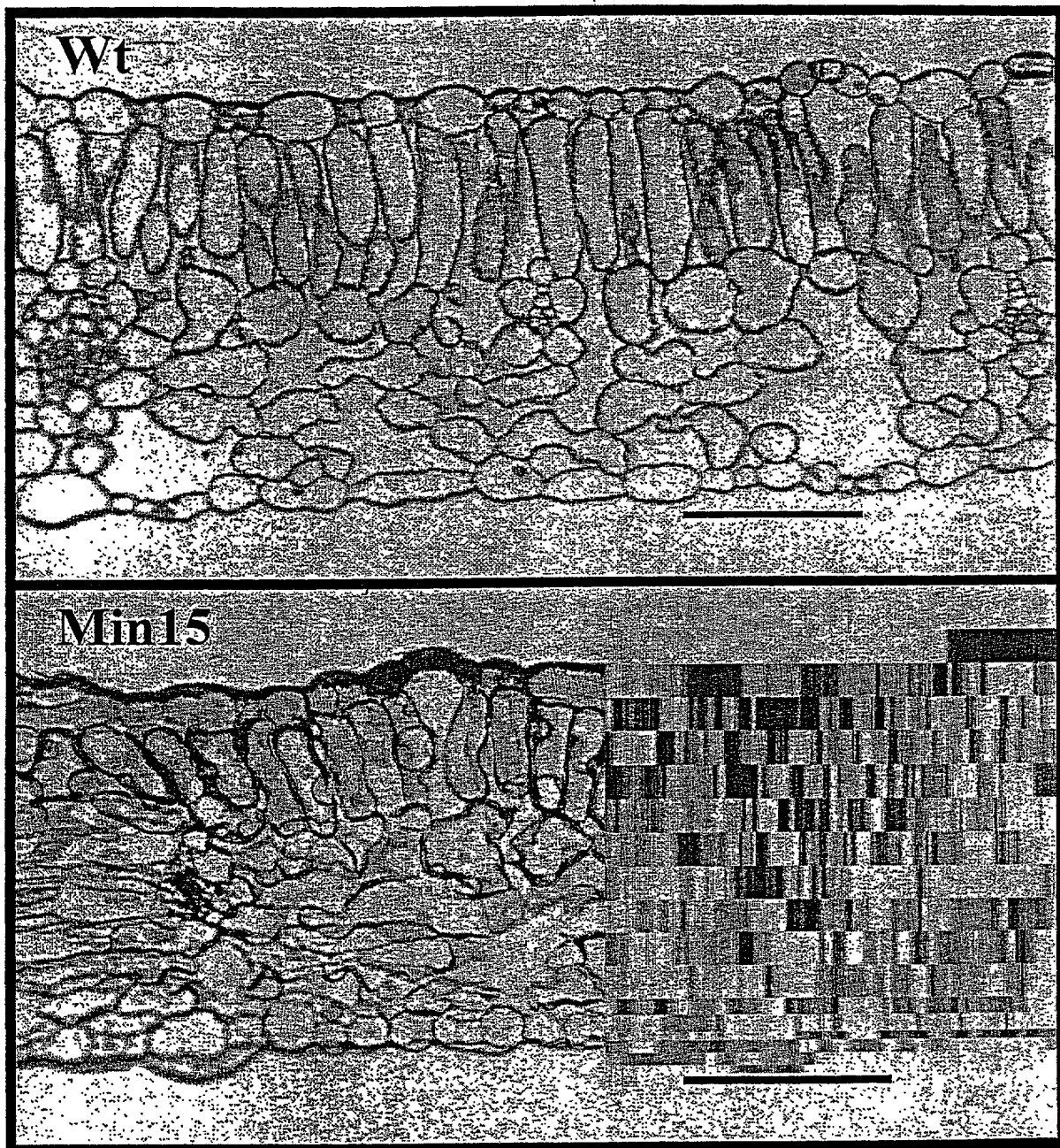
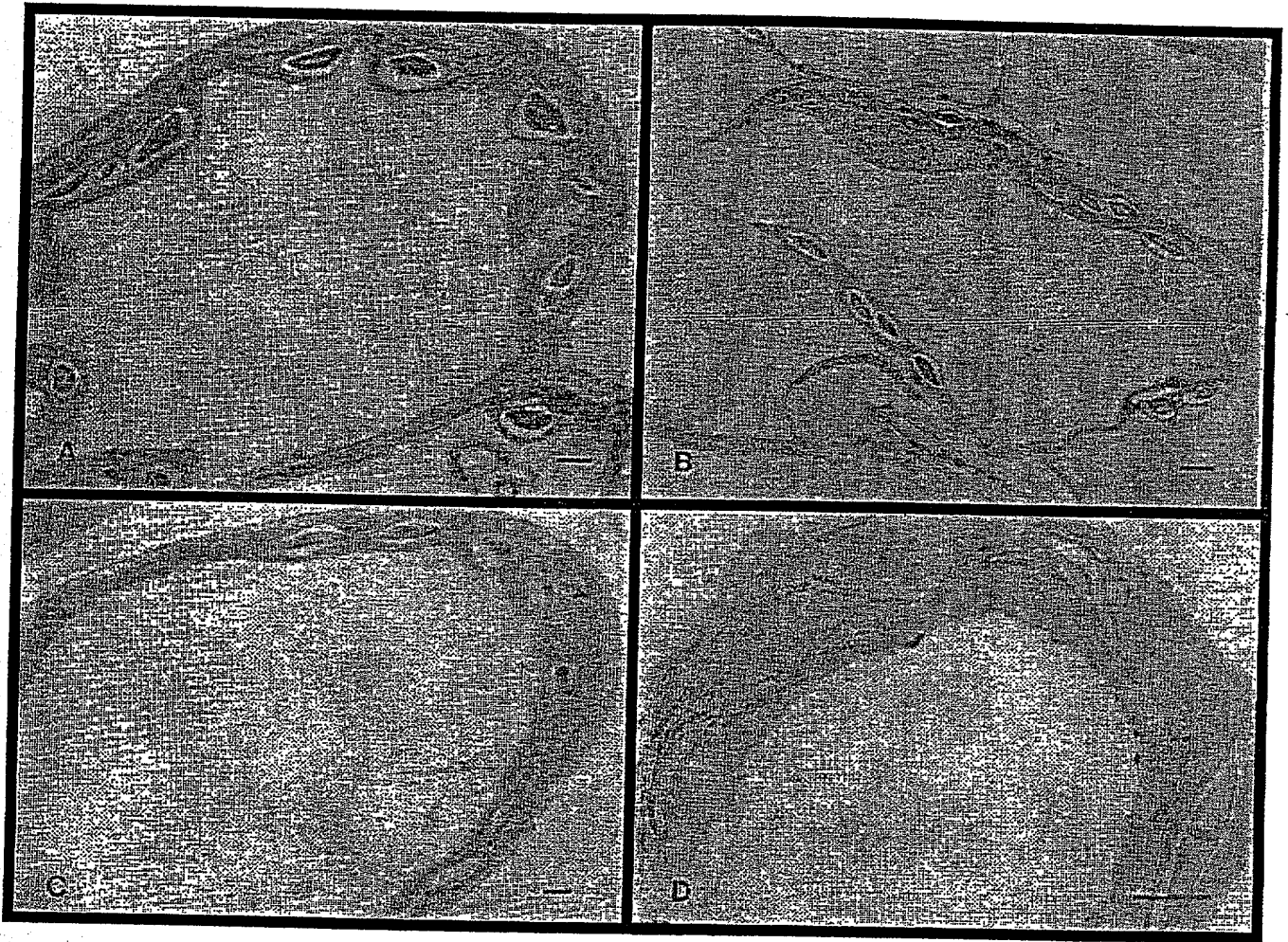


Figure 4



1005089 00025001

Figure 6

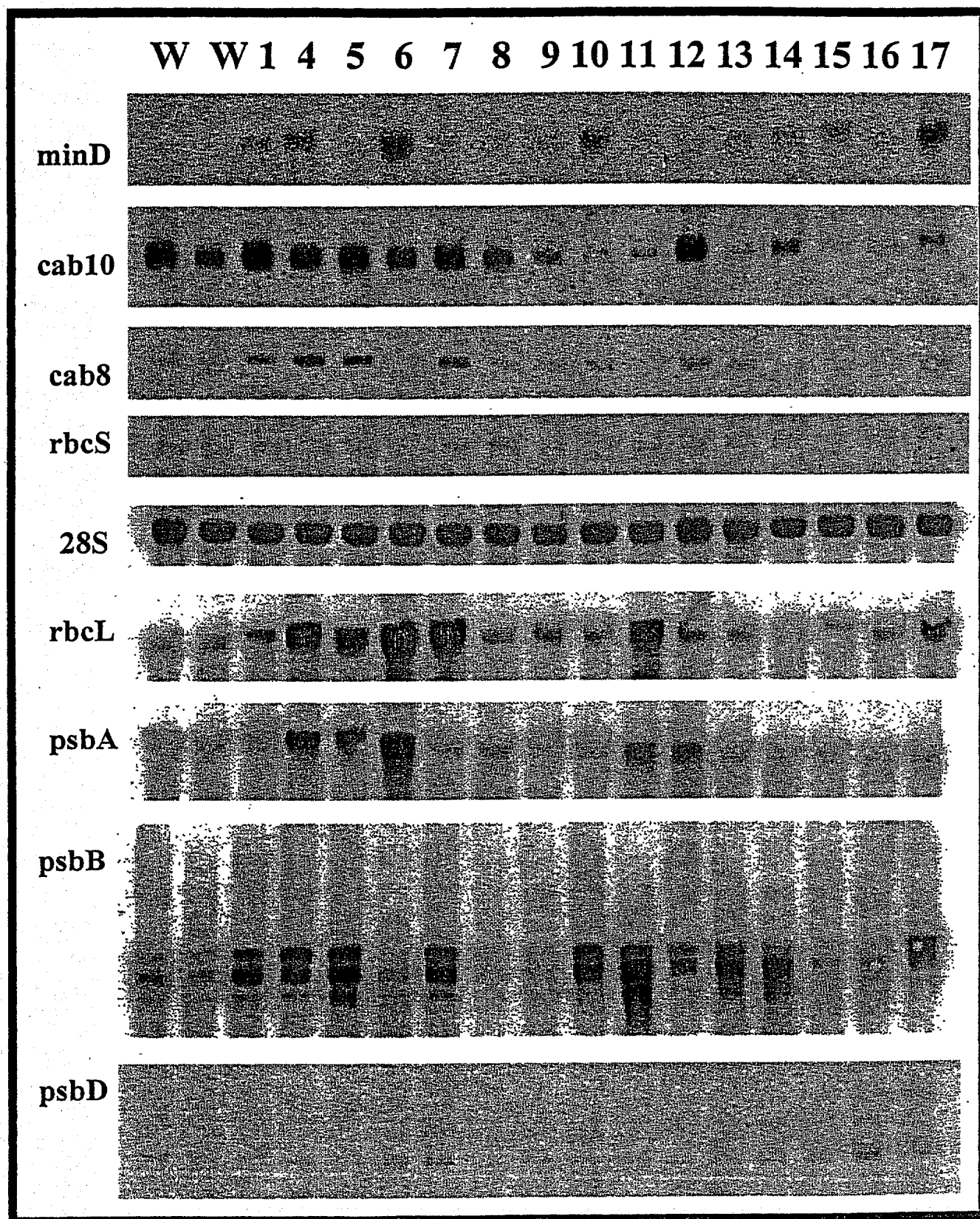


Figure 7

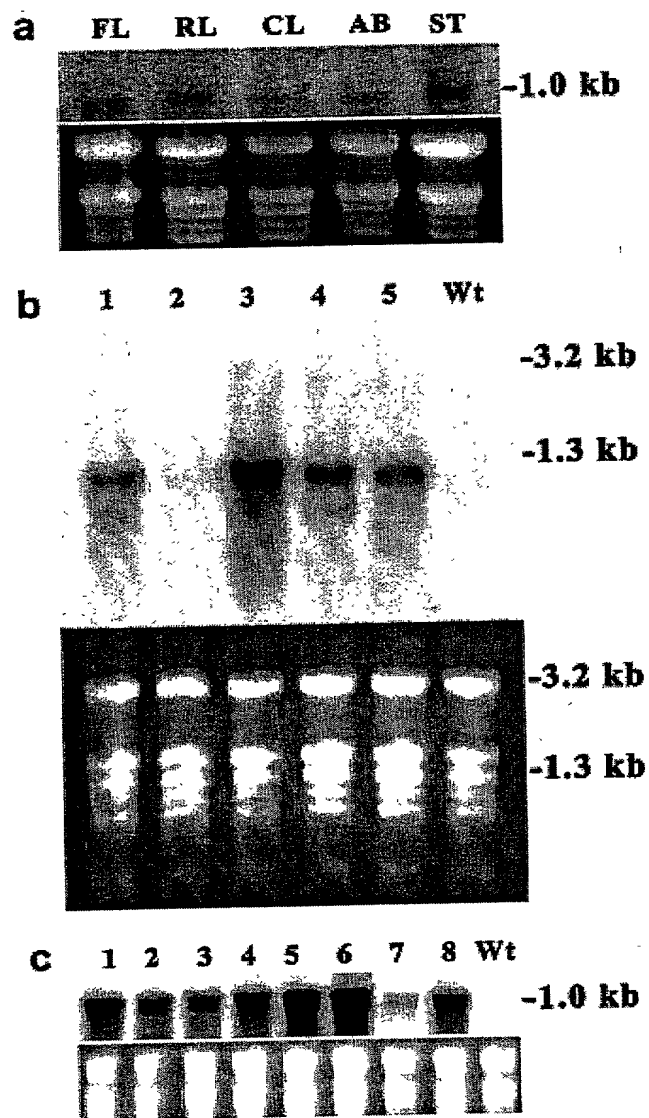
Line	Chlorophyll Content		Fluorescence Measurements		
	Total Chl (ug/mg)	Chla/b (ratio)	F _o (relative units)	F _m (relative units)	F _v /F _m (relative units)
WT	1.99	3.11	137.4±12.0	616.6±34.0	0.777±0.015
<i>AtMin4</i>	1.71	2.64	135.7±11.8	636.2±27.1	0.787±0.017
<i>AtMin5</i>	1.58	3.01	136.5±17.1	534.9±66.1	0.757±0.020
<i>AtMin 8</i>	1.46	3.07	128.5±32.3	489.9±78.6	0.741±0.037
<i>AtMin 9</i>	1.66	3.00	125.5±19.9	520.5±58.3	0.759±0.018
<i>AtMin 10</i>	1.53	2.95	136.5±11.3	543.1±14.3	0.748±0.025
<i>AtMin 17</i>	1.44	2.71	139.5±20.6	564.9±32.7	0.756±0.032
WT	1.69	3.08	105.6±14.9	441.9±58.5	0.760±0.016
<i>AtMin 1</i>	1.74	2.80	126.4±08.6	436.7±27.2	0.714±0.035
<i>AtMin 12</i>	1.60	3.11	123.4±16.6	455.3±84.4	0.724±0.040
<i>AtMin 13</i>	1.91	3.28	115.9±17.9	441.5±64.5	0.737±0.011
<i>AtMin 14</i>	1.59	3.07	113.6±17.2	444.1±58.2	0.743±0.017
<i>AtMin 15</i>	1.59	2.94	119.1±19.5	433.0±45.9	0.724±0.037
<i>AtMin 16</i>	1.71	2.89	122.1±10.7	447.7±41.0	0.725±0.019

The measurements were taken over two days, and due to variation in the F_o and F_m measurements these were kept separate. Fluorescence measurements are averaged from eight samples.

—

Species	Accession	Sequence	Position
Syne	1		0
Guill	1		0
Ecoli	1		0
Pseudo	1		0
Weiss	1		0
Chlorel	1		0
AtMINE	1	MAMSSGTLRISATLVSPYHHHNRRLSLPS;SSSKVVDFTGFI SNGVMSLETQKCTPGLAISRENTAGQVVLARNTGD	48
Syne	1		48
Guill	1		47
Ecoli	1		46
Pseudo	1		47
Weiss	1		47
Chlorel	49		122
AtMINE	80		154
Syne	49		97
Guill	47		88
Ecoli	48		88
Pseudo	43		84
Weiss	48		87
Chlorel	123		198
AtMINE	157		229

Figure 9



1046389 020307

Figure 10

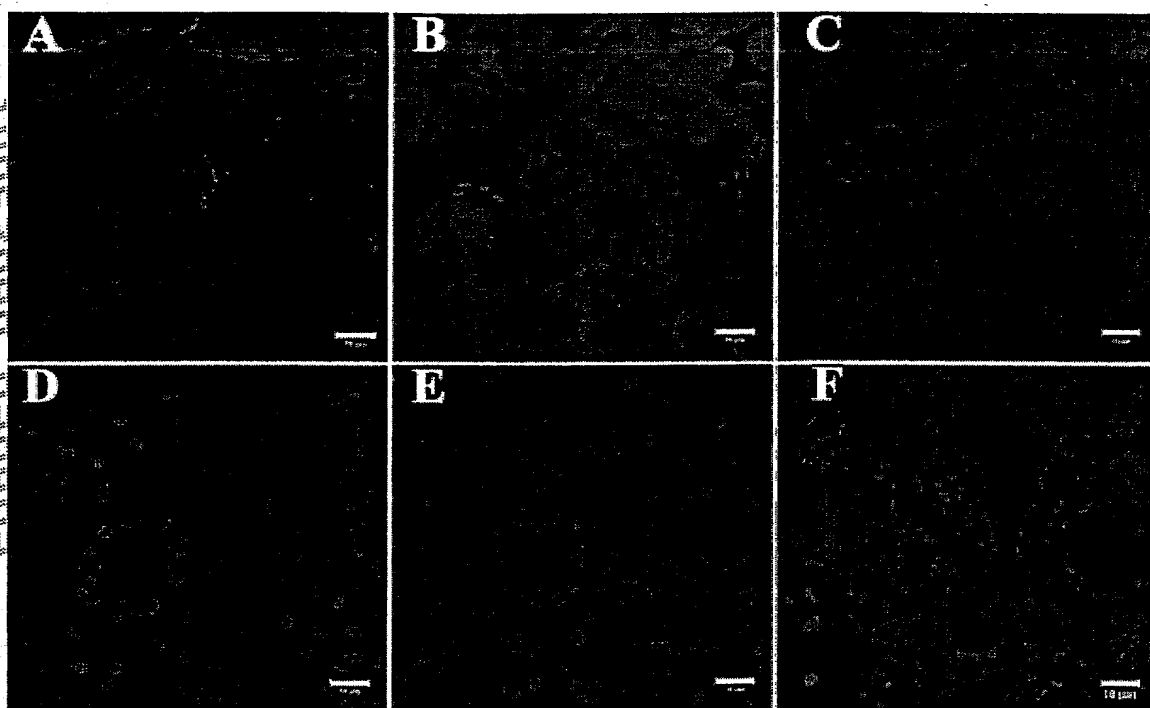


Figure 11

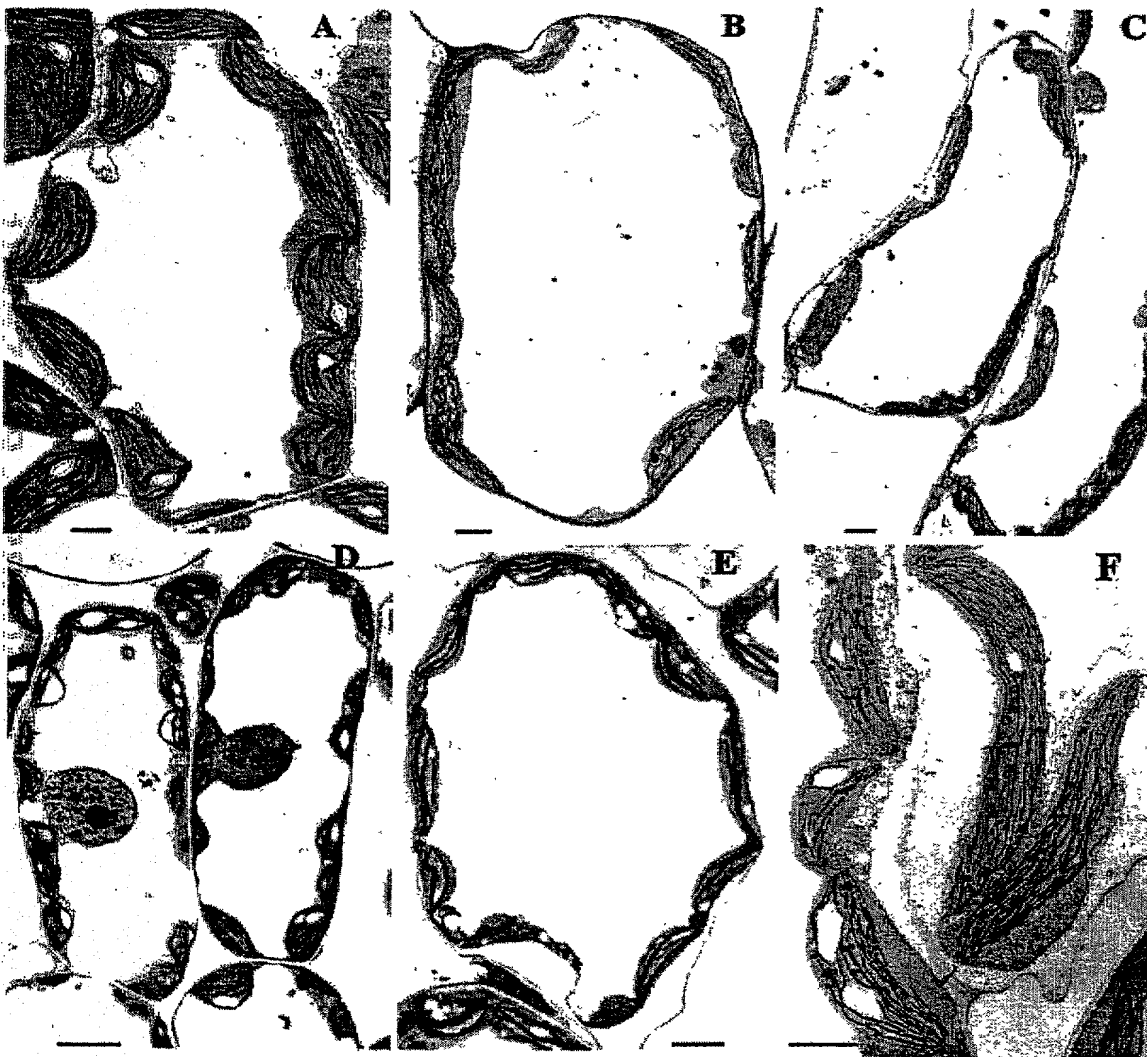


Figure 12

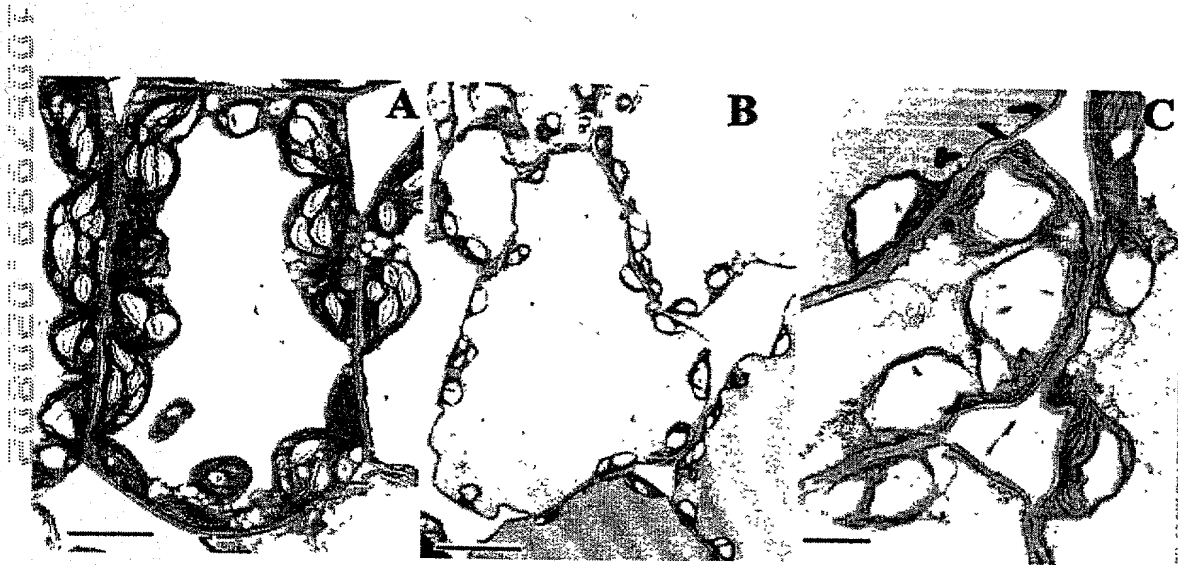


Figure 13

